

REMARKS

Claims 1-16 are pending in the application and stand rejected.

Objections to the claims

Claims 1-11, 15 and 16 are objected to for referring to drawing labels. Applicant has amended independent claims 1 and 9 to remove such references, and submits that this objection is now moot.

Rejection under 35 U.S.C §112

Claims 3, 15 and 16 stand rejected under 35 U.S.C. 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In particular, the Examiner appears to find that the recitation in claim 3 of computing a sequence of potential candidate sub networks being contiguous with said first sub network, and having a range being equal to 2^n , is incorrect and asserts that the second subnet (which Applicant understand to refer to the claimed potential candidate subnetworks) must contain the first subnet. Applicant respectfully traverses this rejection. As more fully explained below in reply to the 102 rejection, the presently claimed invention is directed to discovering an entire network starting from a subnet in the network, i.e. working both up and down the network topology in the process of discovering the network. Applicant respectfully submits that the Examiner may have failed to appreciate the full scope of the presently claimed invention, and requests that the Examiner provide support for his assertion that the second subnet “cannot be contiguous with” the first subnet or else withdraw this objection and consider claim 3, and its dependent claims 15 and 16, on the merits.

Applicant notes that the Examiner repeatedly refers to certain of the claims as “15/3,” “15/1,” etc. It thus appears that the Examiner has failed to take into consideration the preliminary amendment filed concurrently with this application, wherein claims 15 and 16 were amended to depend solely from claim 1.

Rejection under 35 U.S.C §102

Claims 1, 2, 4, 5, 8, 12, 15 and 16 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,618,755 to Bonn. In particular, the Examiner finds that, with regard to claim 1, Bonn discloses all of the claimed limitations. Applicant has reviewed the reference with care, paying particular attention to the passages cited, and is compelled to respectfully disagree with the Examiner’s characterization of this reference. For instance, claim 1 is directed to a process that includes computing a set of sub network configurations to which the IP address of the device could belong. This limitation is simply not disclosed by Bonn. The method of Bonn is in essence a “top-down” analysis of a network that starts at the top of the network (col. 2, l. 11: “the facility first identifies the network addresses of hosts in the network. From the list of identified host addresses, the facility constructs a tree representing the network.”) Bonn thus starts at the top of network with all the hosts that can be identified, then proceeds to slice the network into subnets, discovering the topology of the network. In plain language, Applicant’s invention differs in that it starts at a single seed point (the IP address of the particular device on the network) and then *computes* other subnets to which the IP address of the particular device could belong to. Once these other subnets have been *computed*, they are verified by being pinged.

In essence, in Applicant’s method, because neither the current network configuration nor the subnet in use are known, a broadcast ping on all the possible addresses of the form [subnet]:[-1] is used (the notation depicts an IP address as [base subnet]:[IP address]). By way of example, if an address is 183.20.38.4, it is translated to B7 14 26 04 in hexadecimal notation, and to 1011.0111-0001.0100-0010.0110-0000.0100 in binary form. Connections are next attempted to be made to:

1011.0111-0001.0100-0010.0110:[-1]

1011.0111-0001.0100-0010.011:[-1]

1011.0111-0001.0100-0010.01:[-1]

1011.0111-0001.0100-0010.0:[-1]

1011.0111-0001.0100-0010:[-1]

...

1011.0111-00:[-1]

1011.0111-0:[-1]

1011.0111:[-1]

Each of these subnet broadcast candidates are then verified. Applicant's method thus also allows recognition the actual subnet in use, which is certainly new and inventive in view of the state of the art, because in practice many administrators engage in subnetting (i.e. splitting their subnet into several smaller ones for easier administration).

In contrast, Bonn merely starts at the top addresses (where he can get them) and then builds a tree of all subnets that could possibly be on the network defined by such known hosts. This is a much less automatic, and much more brute force, approach to discovering a network topology that requires significant additional initial information regarding the network than Applicant's claimed method. Applicant therefore respectfully submits that claim 1 is in fact patentable over Bonn. Should the Examiner disagree, Applicant respectfully requests him to clearly and specifically point out where Bonn discloses the features discussed immediately above, in accordance with 37 C.F.R. 1.104(c)2.

Claims 2, 4, 5, 8, 15 and 16 depend from claim 1. In view of the above discussion, it is submitted that claim 1 is allowable, and for this reason claims 2, 4, 5, 8, 15 and 16 are also allowable.

Claim 12 is similar in scope to claim 1. Applicant has also further amended claim 12 herein to more specifically recite the limitations that are novel over the prior art, and fully discussed above. In particular, claim 12 has been amended to specifically recite means for

achieving a self IP configuration and for receiving an IP address for said connection to said at least one sub network, and means for computing, based on said IP address, a set of sub network configurations which are likely to be connected to said Intranet. As explained above, the method of Bonn is entirely different, as Bonn does not compute a set of sub network configurations which are likely to be connected to an Intranet based upon an IP address of a connection to a sub network on the Intranet. Thus, for these reasons, Applicant submits that claim 12 as amended herein is also novel and patentable over Bonn and respectfully requests the Examiner to pass this claim to issue.

Rejection under 35 U.S.C §103

Claims 6, 7, 9, 10, 11 and 13-16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bonn, or Bonn in view of the Lin document cited by Applicant in an earlier Information Disclosure Statement. Applicant respectfully reminds the Examiner of the requirements posited by MPEP 2143.03 that "[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)." (emphasis added) The Examiner has not made, as indeed cannot be made, a *prima facie* showing that Lin discloses the novel features discussed above. In particular, and with specific reference to the limitations of claim 9, the Examiner has not made a showing that Lin teaches or at the very least suggests computing a first value representative of a first subnet mask ("/n") comprising a prefix with n logical "1", said first subnet mask corresponding to a first sub network to which is likely to belong said IP address; nor computing for said value a first and second broadcast addresses; nor, after transmitting an ICMP Echo Request to said first and second broadcast addresses, decrementing n by 1 and repeating the above steps for the purpose of testing new values of possible subnet masks. Applicant therefore submits that claim 9 is allowable and respectfully requests the Examiner to reconsider and pass this claim to issue.

Claims 6, 7, 10, 11 and 15-16 depend from claim 1. Claims 13 and 14 depend from claim 12. "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending

therefrom is nonobvious.” *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Therefore, in light of the above discussion of claims 1 and 12, Applicant submits that claims 6, 7, 10, 11, and 13-16 are also allowable.

Applicant has amended some of the claims to more closely conform them to currently accepted U.S. practice and English usage. These amendments are made solely for the purpose of clarifying the scope of the claims and assisting the Examiner in identifying the differences between the cited art and the claims. Applicant expressly notes that therefore these amendments are not made for purposes related to patentability, because the amendments do not alter the scope of each of the claims, but rather merely clarify it.

Applicant has also amended claim 14 to correct an obvious omission, and thereby comport it to claims 5 and 10.

Regarding the prior art made of record by the Examiner but not relied upon, Applicants believe that this art does not render the pending claims unpatentable.

In view of the above, Applicants submit that the application is now in condition for allowance and respectfully urge the Examiner to pass this case to issue.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 08-2025. In particular, if this response is not timely filed, the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 08-2025.

I hereby certify that this correspondence is being deposited with the United States Post Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

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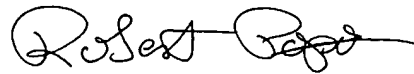


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Respectfully submitted,



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